EPI-QM67

Intel® Huron River QM67 EPIC Module with Intel® QM67 Chipset

Quick Installation Guide

3rd Ed – 9 January 2013

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Part No. E2017382602R

FCC Statement

THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTATLLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

Notice

This guide is designed for experienced users to setup the system within the shortest time. For detailed information, please always refer to the electronic user's manual.

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1. Getting Started

1.1 Safety Precautions

Warning!

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

1.2 Packing List

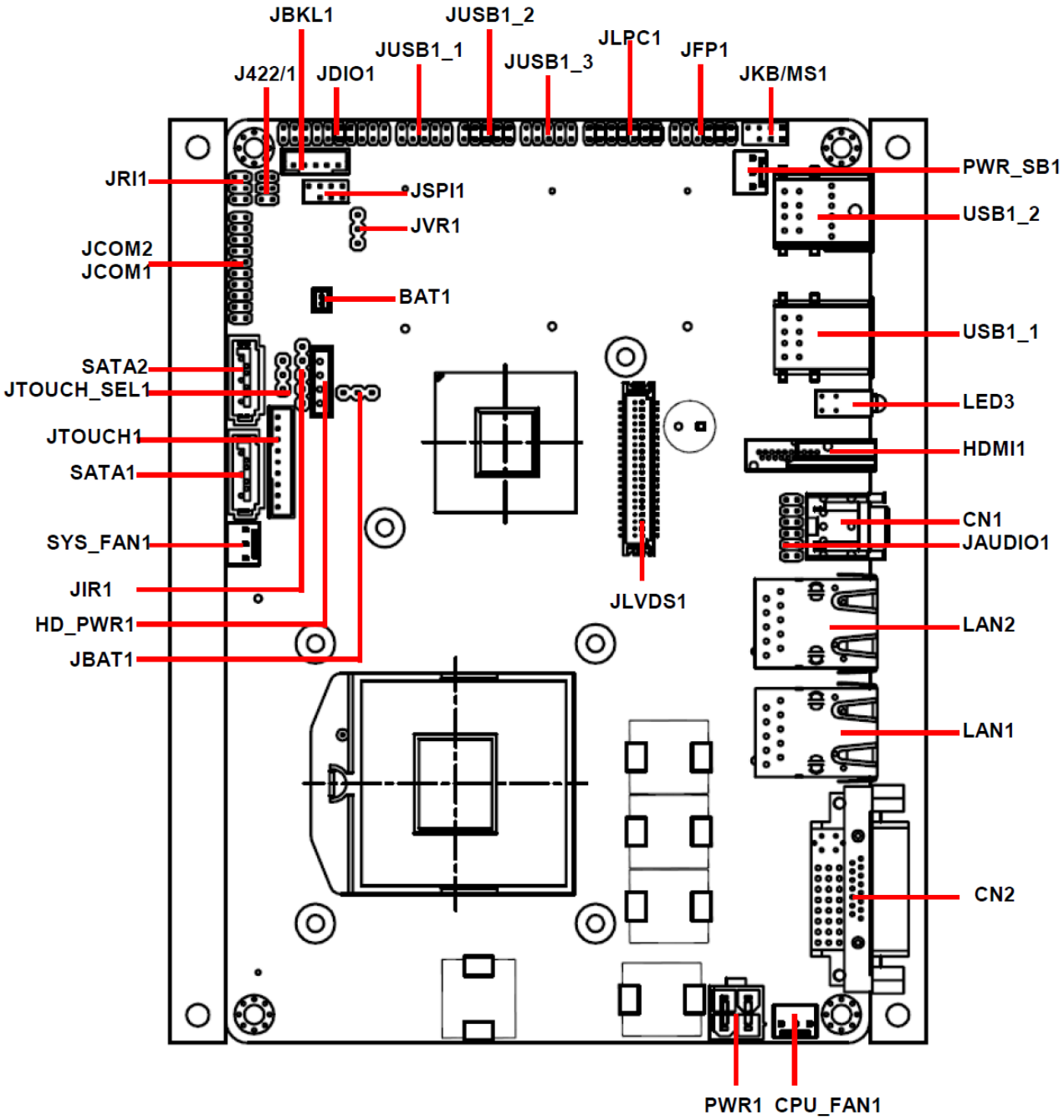
Before you begin installing your single board, please make sure that the following materials have been shipped:

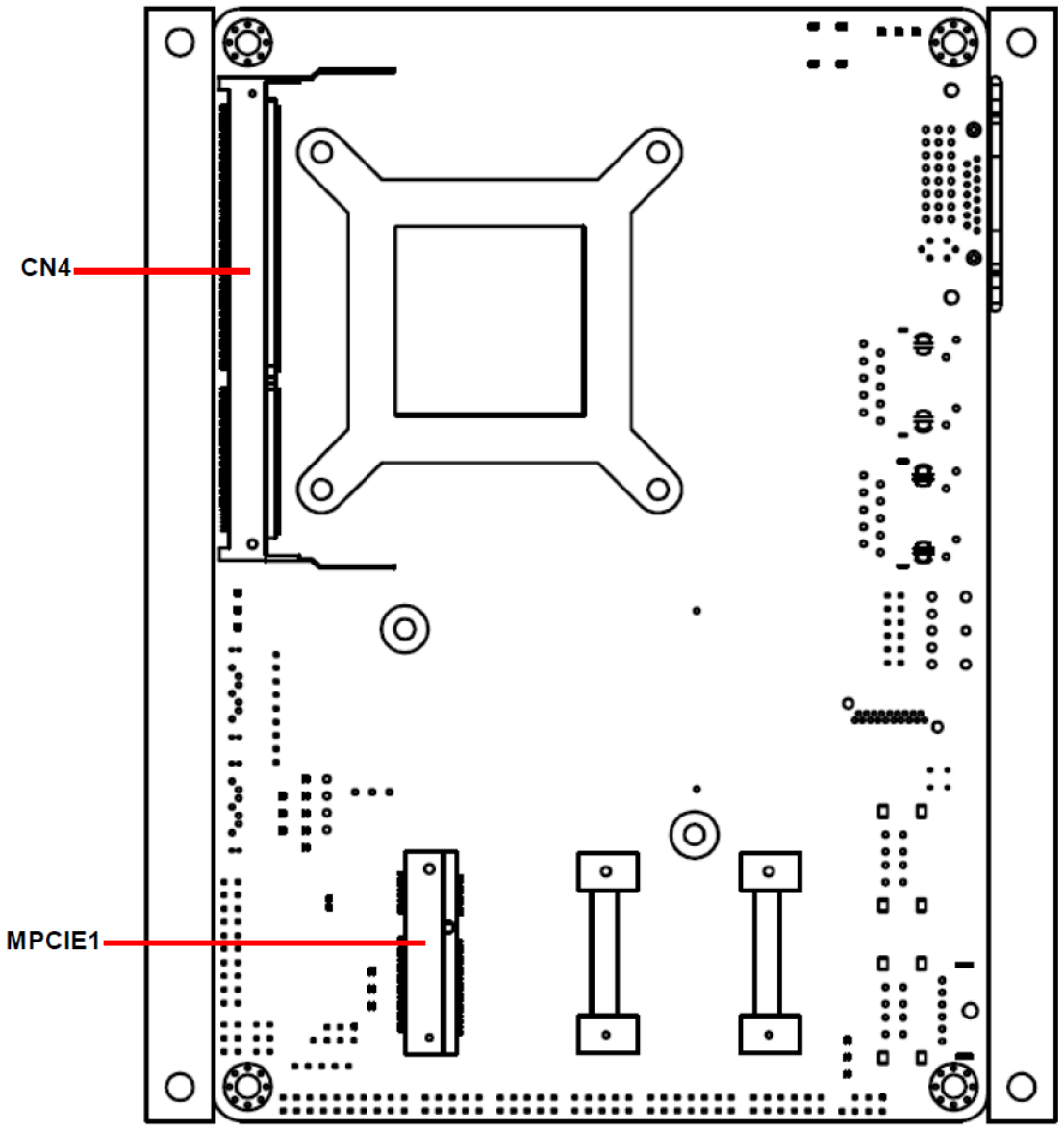
- 1 x Quick Installation Guide for EPI-QM67
- 1 x Cable set contains the followings:
  - 1 x COM port cable (20-pin to 2 x DB9(M))
  - 1 x Serial ATA cable (7-pin, standard)
  - 1 x Serial ATA power cable

If any of the above items is damaged or missing, contact your retailer.

2. Hardware Configuration

2.1 Product Overview

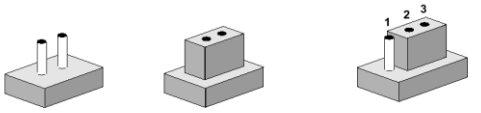



CN4
MPCIE1

2.2 Jumper and Connector List

You can configure your board to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch.

It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper you connect the pins with the clip. To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either two pins.



Open Closed Closed 2-3

The jumper settings are schematically depicted in this manual as follows:

Open Closed Closed 2-3

A pair of needle-nose pliers may be helpful when working with jumpers.

Connectors on the board are linked to external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

The following tables list the function of each of the board's jumpers and connectors.

Jumpers

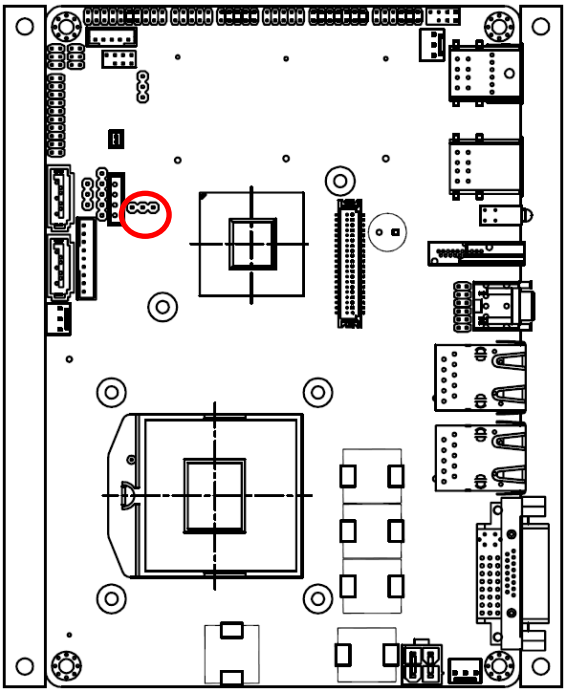
Label	Function	Note
JBAT1	Clear CMOS	3 x 1 header, pitch 2.54mm
JFP1	AT/ATX mode selector, Front panel & LED settings	6 x 2 header, pitch 2.0mm
JRI1	Serial port 1 - Ring, +5V, +12V power selector	3 x 2 header, pitch 2.54mm
JTOUCH_SEL1	Touch panel connector	3 x 1 header, pitch 2.54mm

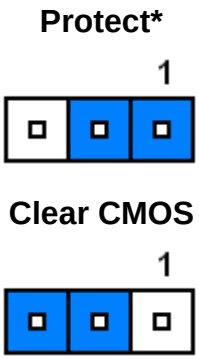
Connectors

Label	Function	Note
BAT1	Battery connector	2 x 1 wafer, pitch 1.25mm
CN1	Audio out connector	Audio jack
CN2	DVI connector	
CN4	204-pin DDR3 SODIMM	
CPU_FAN1	CPU Fan connector	3 x 1 wafer, pitch 2.54mm
HDMI	HDMI connector	
HD_PWR1	HD power connector	4 x 1 wafer, pitch 2.50mm
J422/1	Serial port 2 in RS-422/485 mode	3 x 2 header, pitch 2.0mm
JAUDIO1	Audio Connector	6 x 2 header, pitch 2.0mm
JBKL1	LCD Inverter connector 1	5 x 1 wafer, pitch 2.0mm
JCOM1/ 2	Serial port 1/2 connector	10 x 2 header, pitch 2.0mm
JDIO1	General purpose I/O connector	10 x 2 header, pitch 2.0mm
JIR1	IrDA connector	5 x 1 header, pitch 2.54mm
JKB/MS1	PS/2 keyboard & mouse connector	4 x 2 header, pitch 2.0mm
JLPC1	(Reversed for BIOS programming)	7 x 2 header, pitch 2.0mm
JLVDS1	LVDS connector	DIN 40-pin wafer, pitch 1.25mm
JSPI1	SPI connector	4 x 2 header, pitch 2.0mm
JTOUCH1	Touch panel connector	9 x 1 wafer, pitch 2.0mm
JUSB1_1	USB connector 4 & 5	5 x 2 header, pitch 2.0mm
JUSB1_2	USB connector 6 & 7	5 x 2 header, pitch 2.0mm
JUSB1_3	USB connector 8 & 9	5 x 2 header, pitch 2.0mm
JVR1	LCD Backlight brightness adjustment	3 x 1 header, pitch 2.54mm
LAN1	RJ-45 Ethernet connector 1	
LAN2	RJ-45 Ethernet connector 2	
LED3	Power & HDD indicator	
MPCIE1	Mini PCIEXPRESS connector	
PWR_SB1	5VSB connector in ATX	3 x 1 wafer, pitch 2.54mm
PWR1	Power connector	2 x 2 wafer, pitch 4.2mm
SATA1	Serial ATA connector 1	
SATA2	Serial ATA connector 2	
SYS_FAN1	System Fan connector	3 x 1 wafer, pitch 2.54mm
USB1_1	USB connector 0&1	
USB1_2	USB connector 2&3	

2.3 Setting Jumpers & Connectors

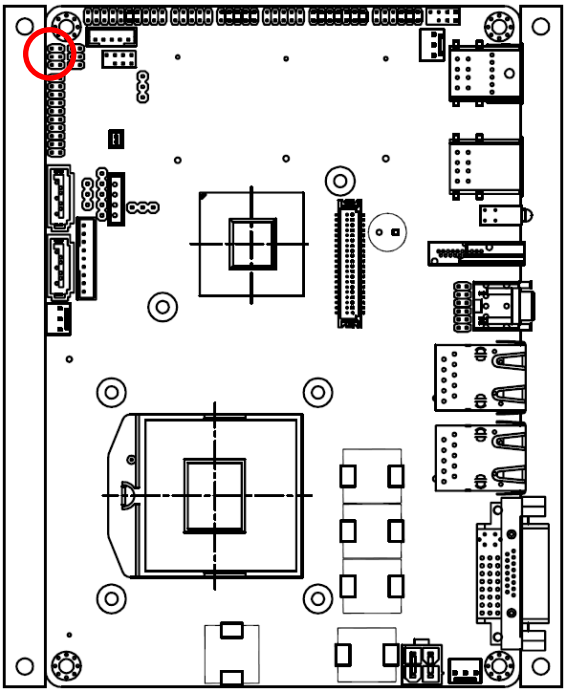
2.3.1 Clear CMOS (JBAT1)

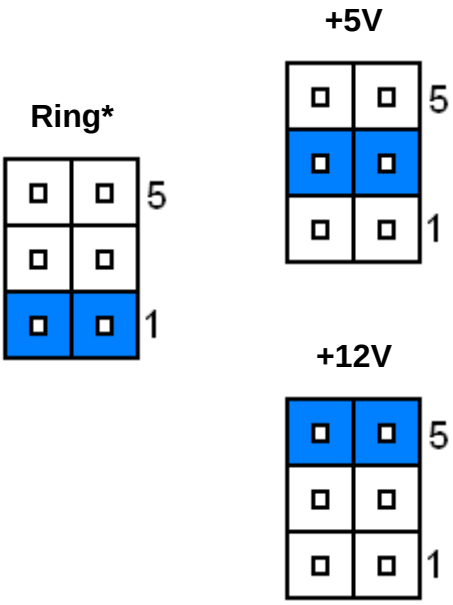




***Default**

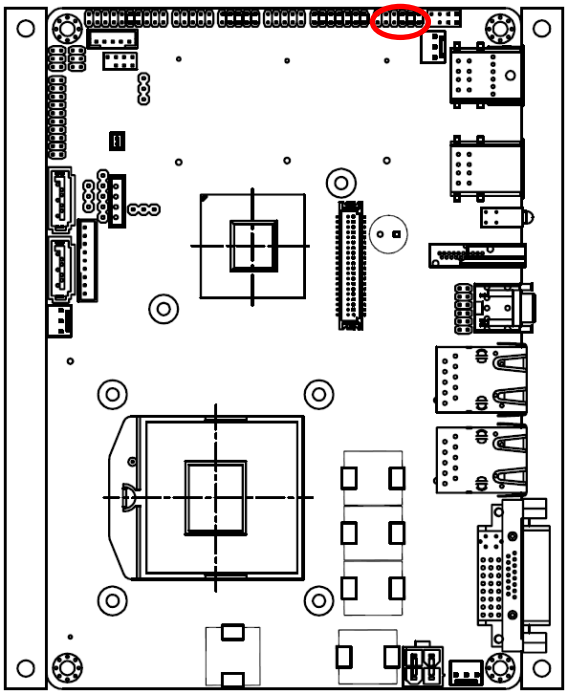
2.3.2 Serial port 1 - Ring, +5V, +12V power selector (JRI1)



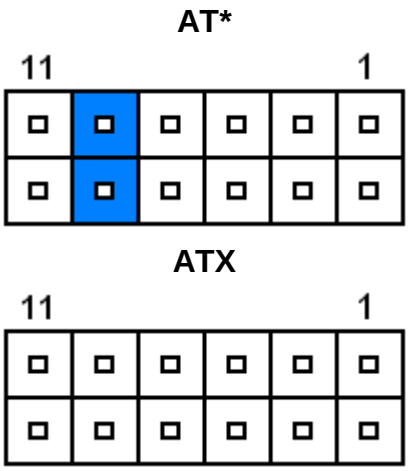


*** Default**

2.3.3 AT/ATX mode selector, Front panel & LED settings (JFP1)

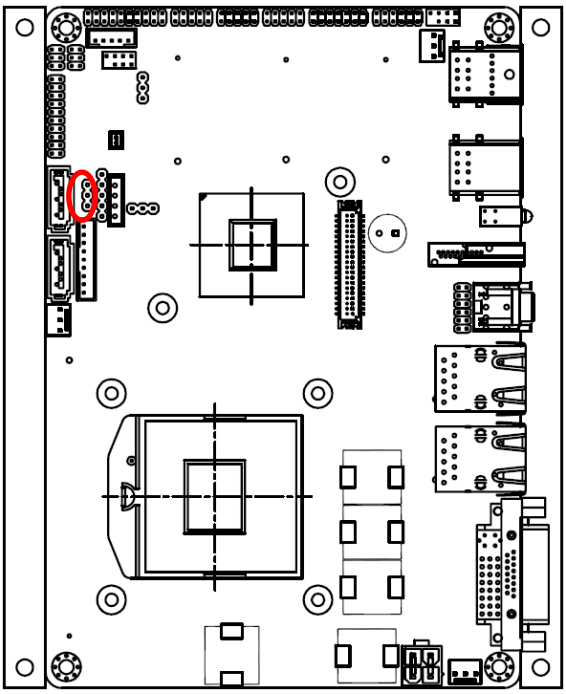


*Default



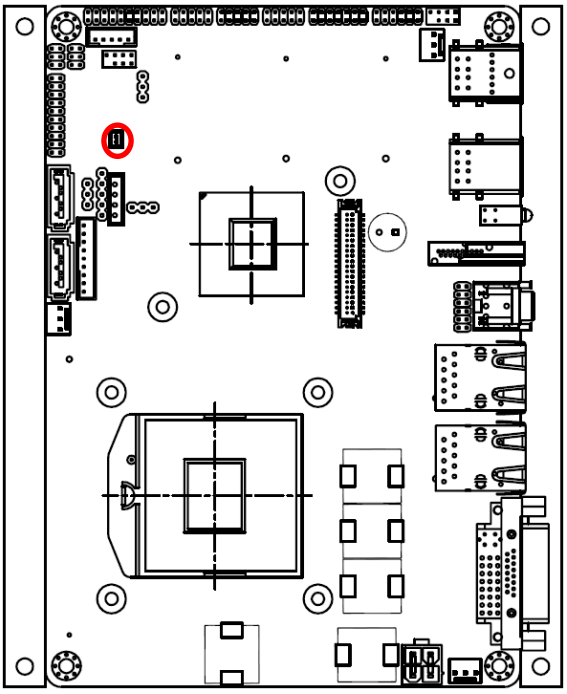
Signal	PIN
PWBT	1, 2
RST#	3, 4
PWR-LED	5, 6
HDD-LED	7, 8
Short: AT MODE Open: ATX MODE	9, 10
COPEN#	11, 12

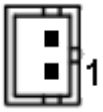
2.3.4 Touch panel connector (JTOUCH_SEL1)



* Default

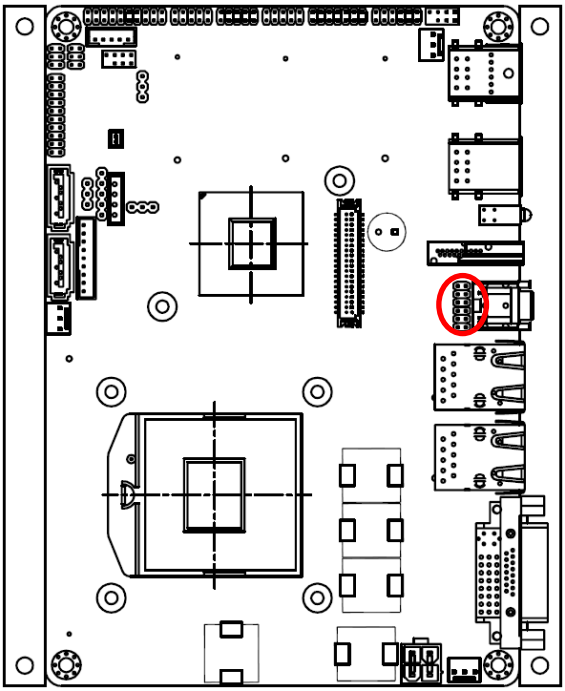
2.3.5 Battery connector (BAT1)

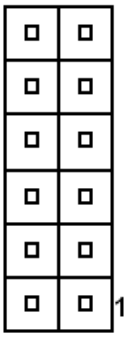




Signal	PIN
GND	2
VBAT	1

2.3.6 Audio connector (JAUDIO1)



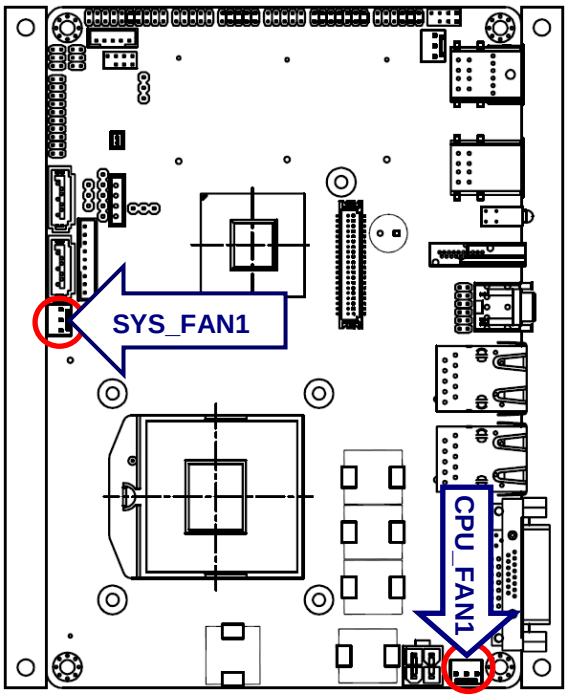


Signal	PIN	PIN	Signal
GND	12	11	MIC1_JD
LINE1_JD	10	9	FRONT_JD
MIC_LIN	8	7	MIC_RIN
LINE_LIN	6	5	LINE_RIN
GND	4	3	GND
LOUT	2	1	ROUT

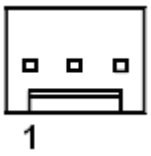
2.3.6.1 Signal Description –Audio connector (JAUDIO1)

Signal	Signal Description
FRONT_JD	AUDIO Out (ROUT/LOUT) sense pin
LINE1_JD	AUDIO IN (LINE_RIN/LINE_LIN) sense pin
MIC1_JD	MIC IN (MIC_RIN/MIC_LIN) sense pin

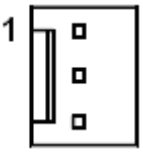
2.3.7 CPU fan / System fan connector (CPU_FAN1/ SYS_FAN1)



CPU_FAN

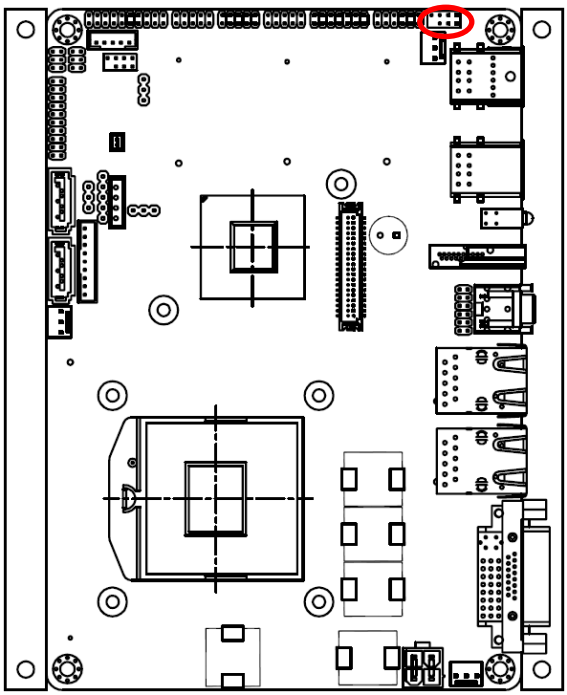


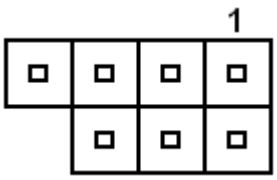
SYS_FAN



Signal	PIN
GND	1
CPU_FAN_PWR/ SYS_FAN_PWR	2
CPUFANIN/ SYSFANIN	3

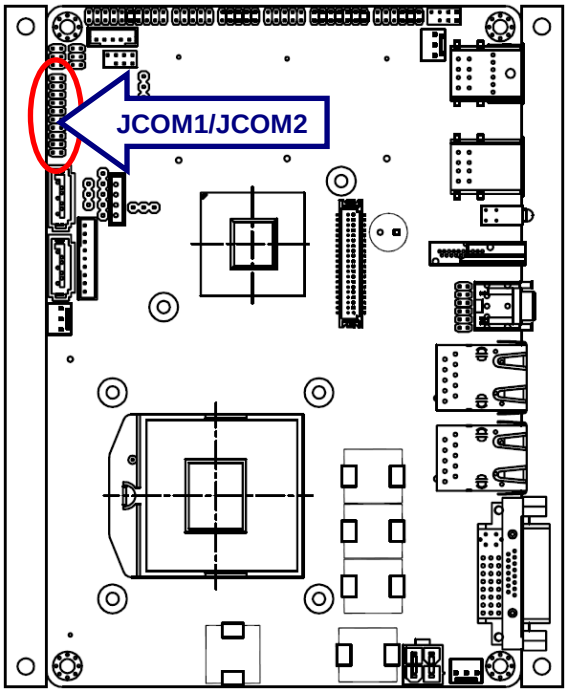
2.3.8 PS/2 keyboard & mouse connector (JKB/MS1)

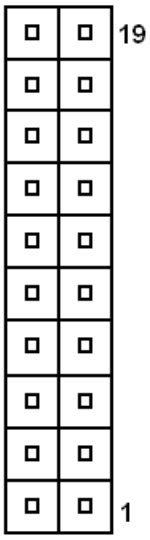




Signal	PIN	PIN	Signal
		7	NC
MCK	6	5	MDT
VDD	4	3	GND
KCK	2	1	KDT

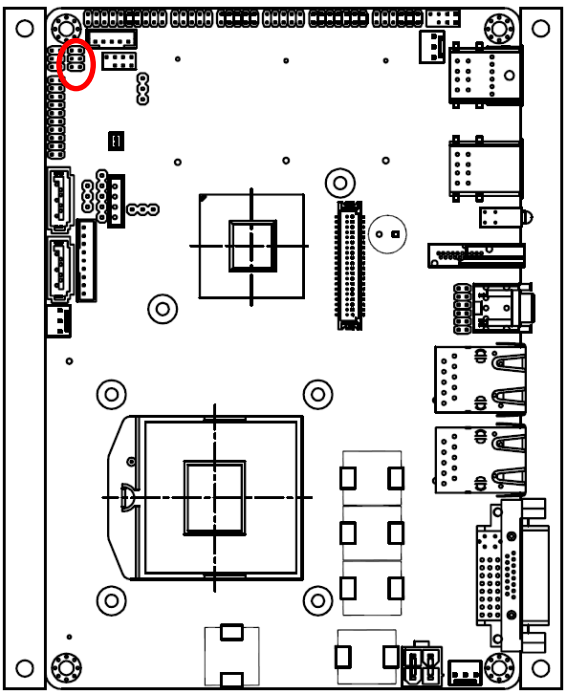
2.3.9 Serial port 1/ 2 connector (JCOM1/ JCOM2)

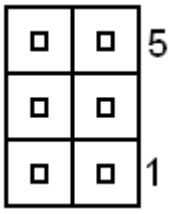




Signal	PIN	IN	Signal
NC	20	19	RI2
CTS2	18	17	RST2
DSR2	16	15	GND
DTR2	14	13	TXD2
RXD2	12	11	DCD2
NC	10	9	RI1
CTS1	8	7	RST1
DSR1	6	5	GND
DTR1	4	3	TXD1
RXD1	2	1	DCD1

2.3.10 Serial port 1/2 in RS-422/485 mode connector (J422/1)

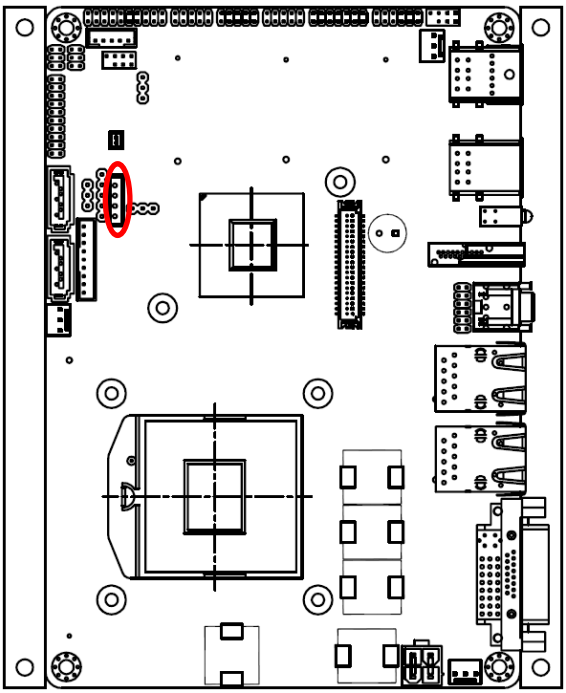




Signal	PIN	PIN	Signal
GND	6	5	+5V
RX+	4	3	TX+
RX-	2	1	TX-

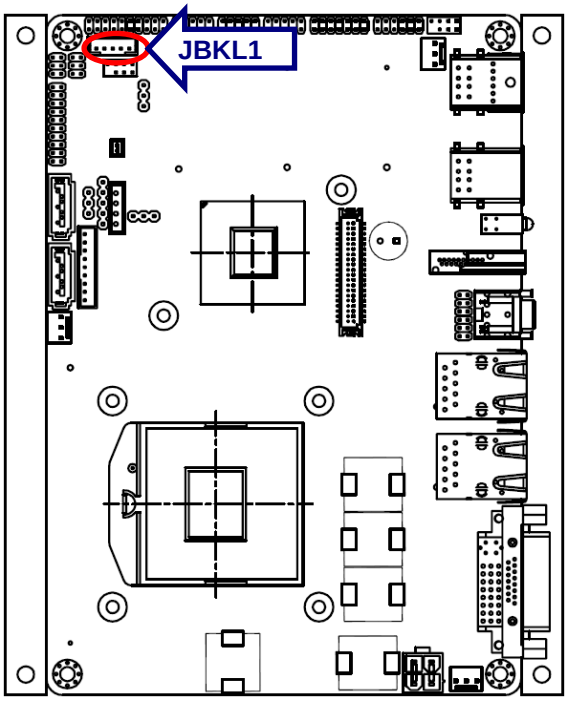
Note: J422/1 is available after modifying the mode of COM2 in BIOS setting.

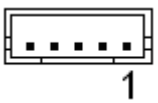
2.3.11 HD power connector (HD_PWR1)



Signal	PIN
+5V	4
+5V	3
GND	2
GND	1

2.3.12 LCD Inverter Connector 1 (JBKL1)



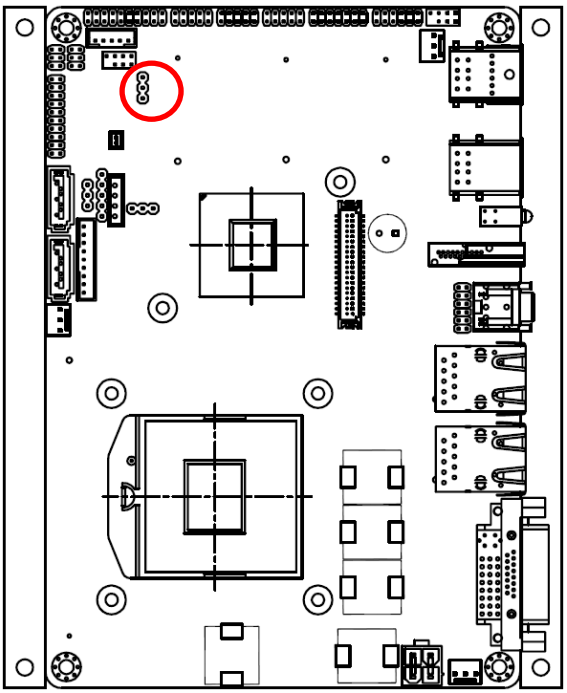


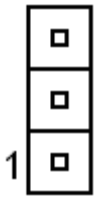
Signal	PIN
+5V	5
BRIGHT	4
BLK_ON	3
GND	2
+12V	1

2.3.12.1 Signal Description – LCD Inverter Connector (JBKL1)

Signal	Signal Description
BRIGHT	Vadj = 0.75V ~ 4.25V (Recommended: 4.7KΩ, >1/16W)
BLK_ON	LCD backlight ON/OFF control signal

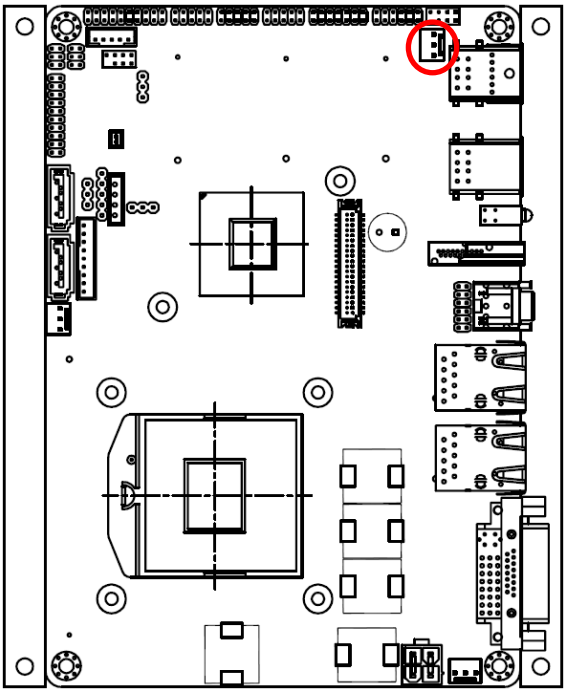
2.3.13 LCD Backlight brightness adjustment (JVR1)

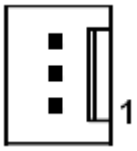




Signal	PIN
GND	3
BRIGHT	2
+5V	1

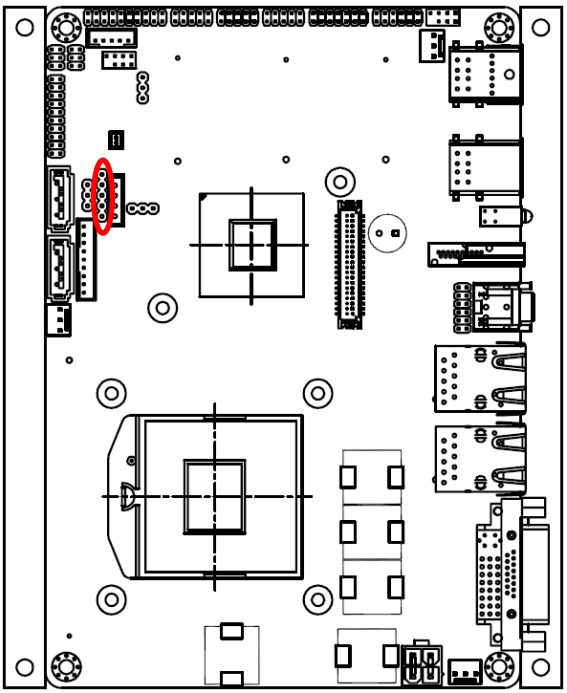
2.3.14 5VSB connector in ATX (PWR_SB1)

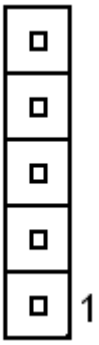




Signal	PIN
ATX5VSB	3
GND	2
PS_ON#	1

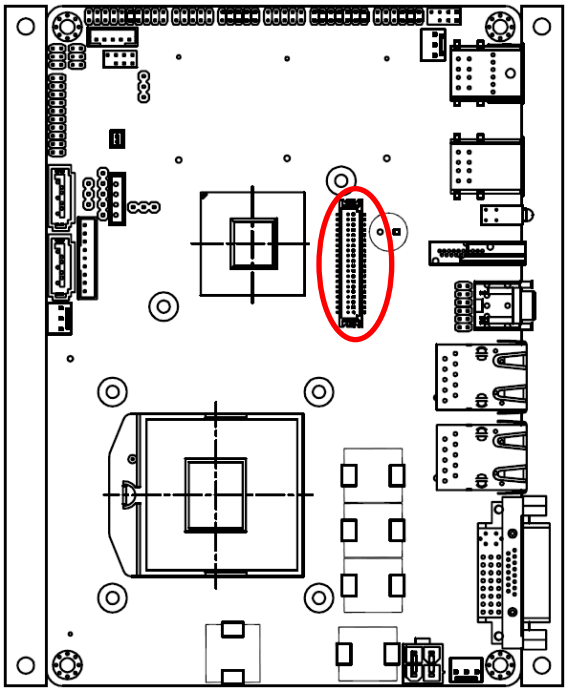
2.3.15 IrDA connector (JIR1)

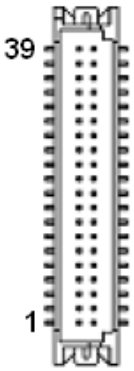




Signal	PIN
TX	5
GND	4
RX	3
NC	2
+5V	1

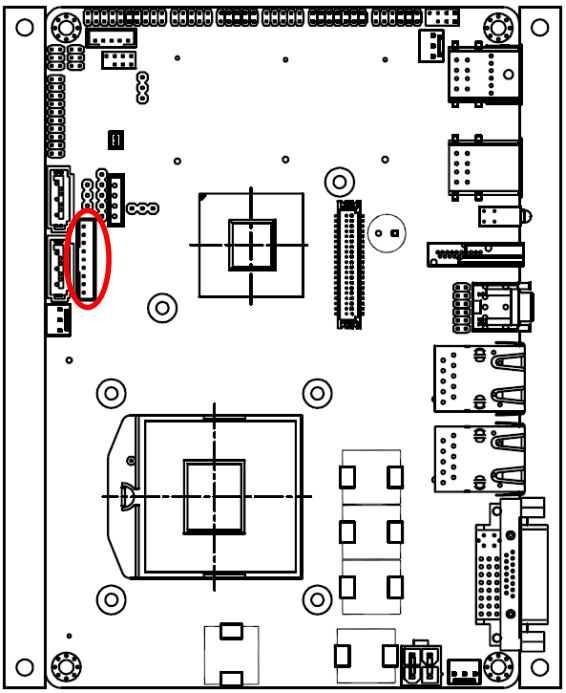
2.3.16 LVDS connector (JLVDS1)



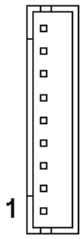


Signal	PIN	PIN	Signal
+12V	39	40	+12V
GND	37	38	GND
CLK2M	35	36	CLK1M
CLK2P	33	34	CLK1P
GND	31	32	GND
YA7M	29	30	YA6M
YA7P	27	28	YA6P
GND	25	26	GND
YA5M	23	24	YA4M
YA5P	21	22	YA4P
GND	19	20	GND
YA3M	17	18	YA2M
YA3P	15	16	YA2P
GND	13	14	GND
YA1M	11	12	YA0M
YA1P	9	10	YA0P
GND	7	8	GND
SPCLK	5	6	SPDATA
+3.3V	3	4	+5V
+3.3V	1	2	+5V

2.3.17 Touch panel connector (JTOUCH1)

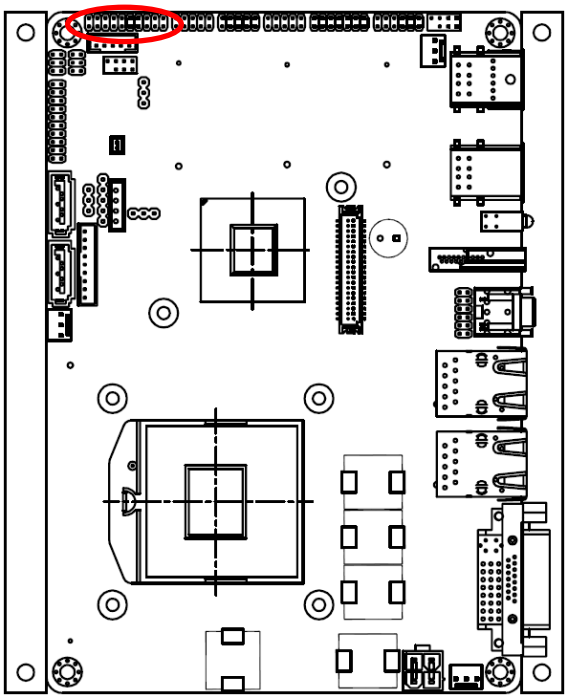


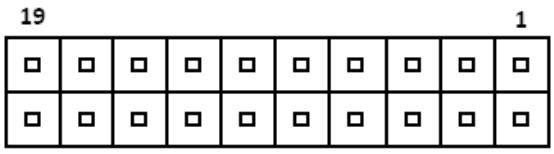
Signal	PIN
TOUCH_GND	9
Y-	8
Y+	7
X-	6
X+	5
SENSE	4
Y+	3
X-	2
X+	1



PIN	4-WIRE	5-WIRE	8-WIRE
9	GND	GND	GND
8	Top	UL	Top Excite
7	Bottom	UR	Bottom Excite
6	Left	LL	Left Excite
5	Right	LR	Right Excite
4	N/A	Sense	Top Sense
3	N/A	N/A	Bottom Sense
2	N/A	N/A	Left Sense
1	N/A	N/A	Right Sense

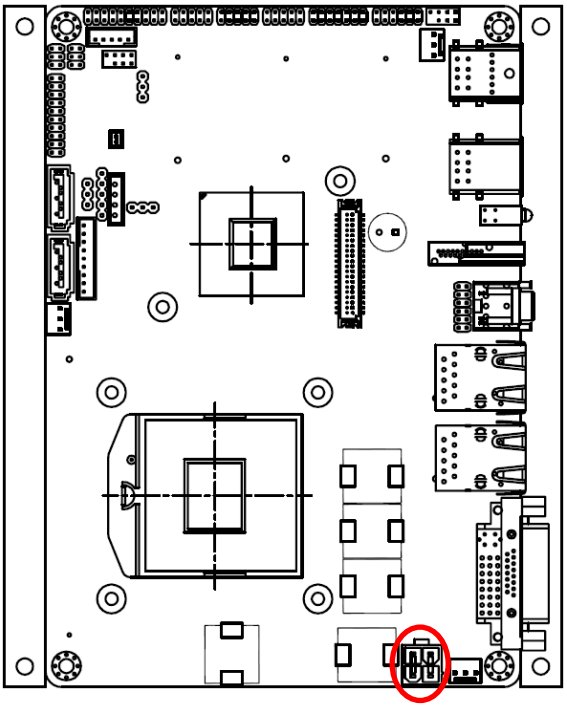
2.3.18 General purpose I/O connector (JDIO1)

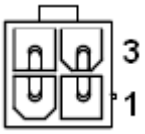




Signal	PIN	PIN	Signal
+5V	20	19	GND
SMBDATA_MAIN	18	17	SMBCLK_MAIN
DIO_GP17	16	15	DIO_GP27
DIO_GP16	14	13	DIO_GP26
DIO_GP15	12	11	DIO_GP25
DIO_GP14	10	9	DIO_GP24
DIO_GP13	8	7	DIO_GP23
DIO_GP12	6	5	DIO_GP22
DIO_GP11	4	3	DIO_GP21
DIO_GP10	2	1	DIO_GP20

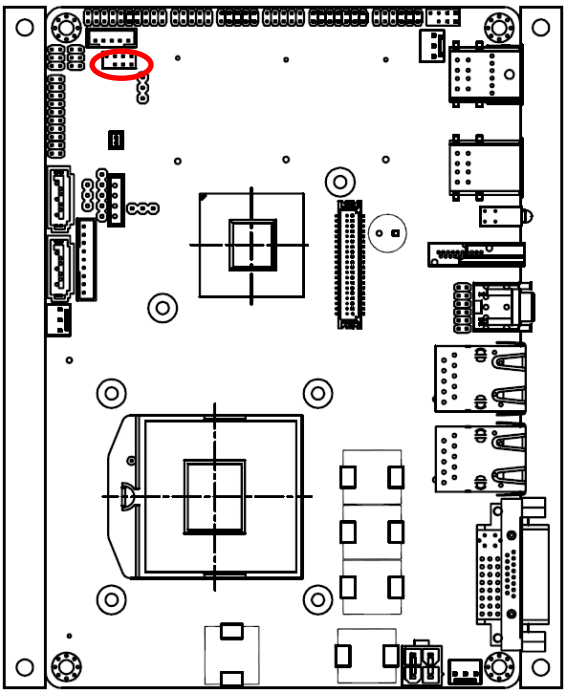
2.3.19 Power connector (PWR1)

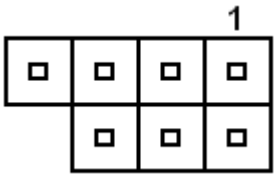




Signal	PIN	PIN	Signal
VIN	4	3	VIN
GND	2	1	GND

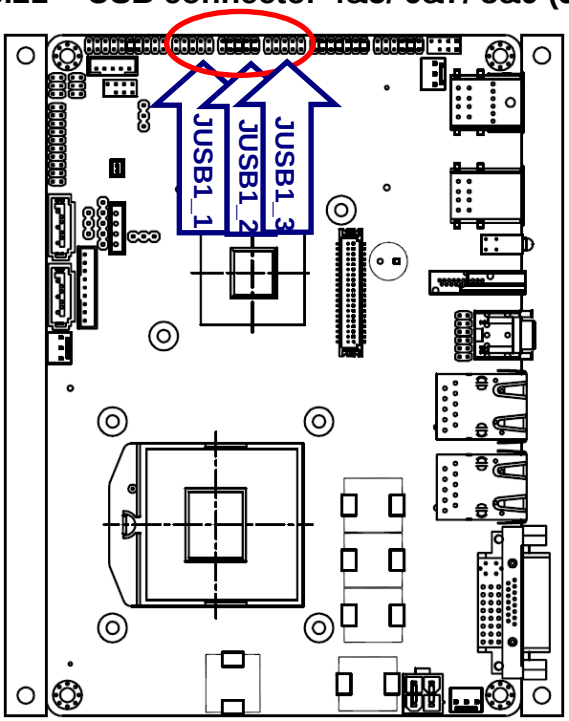
2.3.20 SPI connector (JSPI1)

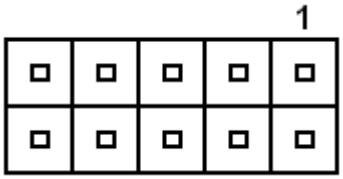




Signal	PIN	PIN	Signal
		7	HOLD#
SPI_SI	6	5	SPI_SO
SPI_CLK	4	3	SPI_CS#0
GND	2	1	+3.3V

2.3.21 USB connector 4&5/ 6&7/ 8&9 (JUSB1_1/ JUSB1_2/ JUSB1_3)



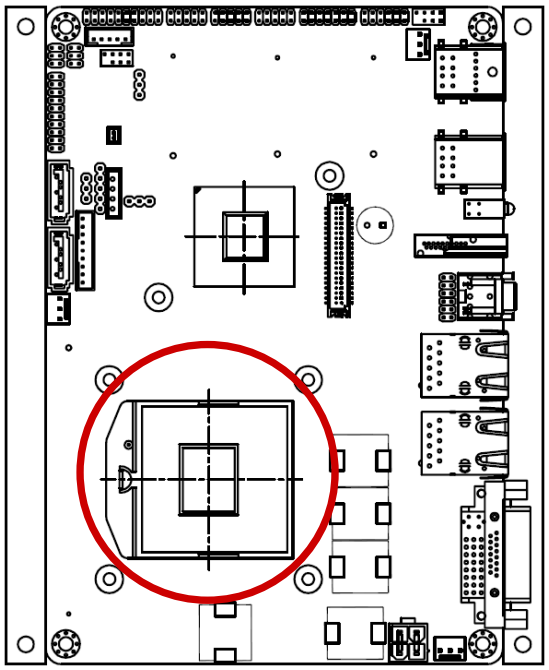


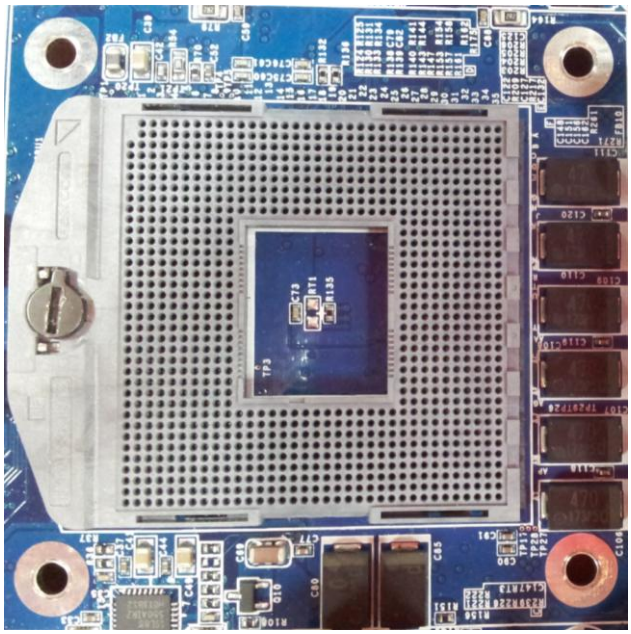
Signal	PIN	PIN	Signal
+5V	1	2	GND
USB_DN4/6/8	3	4	GND
USB_DP4/6/8	5	6	USB_DP5/7/9
GND	7	8	USB_DN5/7/9
GND	9	10	+5V

Note: Wrong USB cable configuration with USB devices might damage USB devices.

2.4 Installing the CPU

2.4.1 Locate the CPU socket on the board.

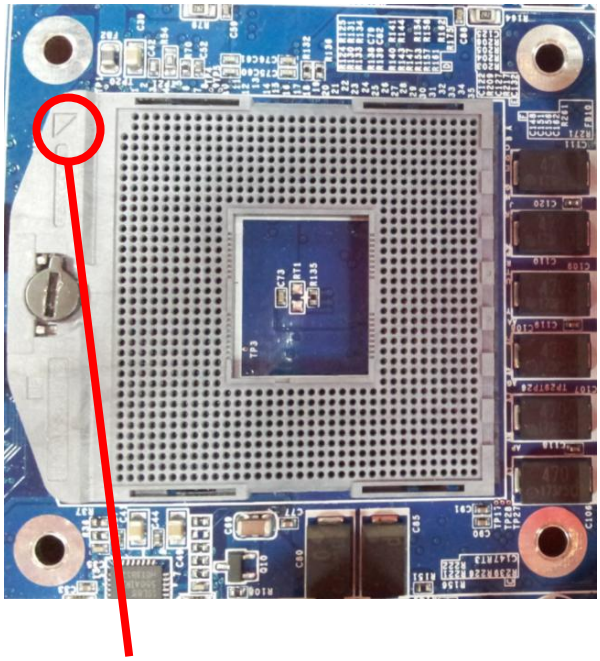




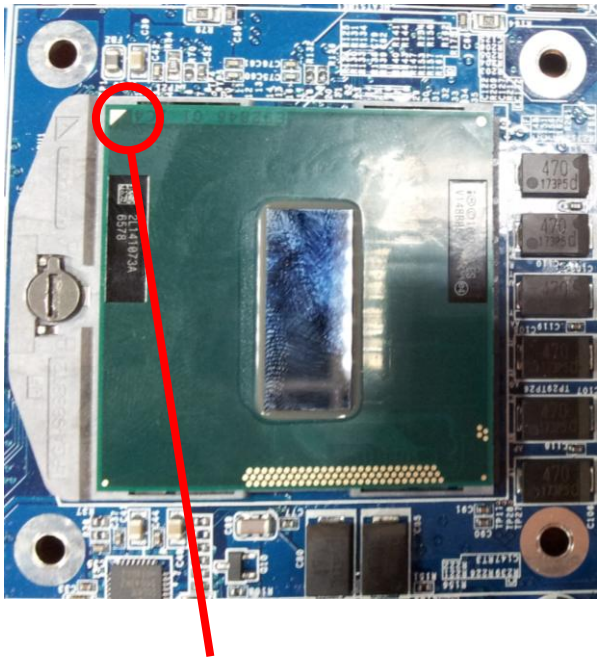
Before installing the CPU, make sure that the socket box is facing towards you and the load lever is on your left.

2.4.2 Separate CPU cooler and its base first by screw drawer

1. Position the CPU over the socket, making sure that the gold triangle is the same side as CPU Socket triangle

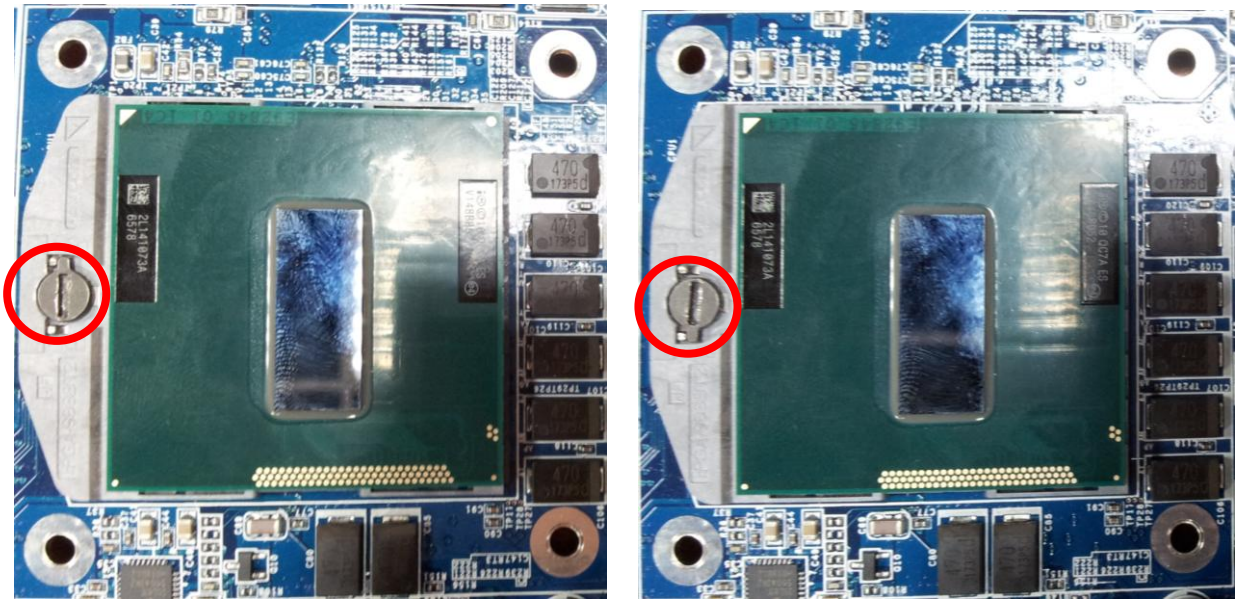


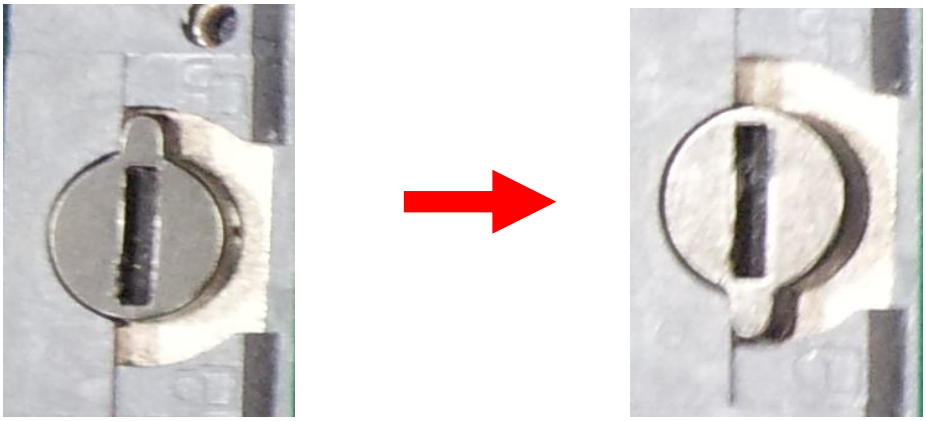
CPU Socket triangle



Gold triangle

2. turn the CPU lock clockwise to lock CPU





The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU!